



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/708,405	03/01/2004	Yukio Koyanagi	22040-00029-US	2404
30678 7590 04/20/2007 CONNOLLY BOVE LODGE & HUTZ LLP P.O. BOX 2207 WILMINGTON, DE 19899-2207			EXAMINER MAI, TAN V	
			ART UNIT 2193	PAPER NUMBER
SHORTENED STATUTORY PERIOD OF RESPONSE		MAIL DATE	DELIVERY MODE	
3 MONTHS		04/20/2007	PAPER	

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/708,405

Applicant(s)

KOYANAGI, YUKIO

Examiner

Tan V. Mai

Art Unit

2193

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 March 2004.
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 and 8-43 and 45-51 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☒ Claim(s) 4-6 and 17-19 is/are allowed.
6) ☒ Claim(s) 1-3, 8-16, 20-43 and 45-51 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 3/1/04.
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____

Art Unit: 2193

1. Claims 8-11, 13-16, 20-29, 31-32, 34-35, 40-43, 45-46 and 48-49 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

As per claim 8, the phrase "while causing absolute values of the sequence to remain the same" (last two lines) is NOT understood. It is noted that the filter (line 4) should have TWO symmetrical sequences [one for first filter factors and another for second filter factors]. It is unclear whether the "sequence" (last line) is referred to "first filter factors" or "second filter factors". The examiner understands the "absolute values" of BOTH sequences without medians are the same; however, the "while causing absolute values of the sequence to remain the same" is NOT stated the feature. It is suggested that the phrase is deleted. Similarly noted claims 9, 13-14, 20-21, 24-25, 31-32, 34-35 and 45-46.

As per claim 24, "the sequence" (line 5) seems to be lack antecedent basis. Also, it is unclear whether or not the "the sequence" (line 5) is the same as "a symmetrical sequence" (line 6). Similarly noted claim 28.

As per claim 25, it is unclear whether or not the "a sequence" (line 5) is the same as "a symmetrical sequence" (line 7). Similarly noted claim 29.

As per claim 40, the phrase "m stages ($m = 1$)" seems to be mistyped. Similarly noted claims 41-43 and 48-49 (in n stages ($n=1$)).

As per claim 49, "inn stages ($n=1$)" is mistyped.

Art Unit: 2193

2. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 20-43 and 45-51 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

The claims recite a method for performing a mathematical function.

"[t]o satisfy section 101 requirements, the claim must be for a practical application of the Sec. 101 judicial exception, which can be identified in various ways:

- . The claimed invention "transforms" an article or physical object to a different state or thing.
- . The claimed invention otherwise produces a useful, concrete and tangible result,...".

See "Interim Guidelines for Examination of Patent Applications for Patent Subject Matter Eligibility" OG Date: 22 November 2005.

Since there is no physical transform to establish a practical application, a useful, concrete and tangible result appears to be lacking. Therefore, claims 20-43 and 45-51 are directed to a non-statutory process.

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who

Art Unit: 2193

has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

4. Claim 1 is rejected under 35 U.S.C. 102(e) as being clearly anticipated by Acharya.

Archarya teaches the claimed combination elements, e.g., see Fig. 1, elements (130, 140) and col. 1, lines 32-37 "[t]he numbers provided in parenthesis for each FIR block in FIG. 1 represents the pyramid filter of corresponding length. For example, (1, 2, 1) are the filter coefficients for a symmetrical pyramid finite impulse response (FIR) filter of order or length 3. Likewise, (1, 2, 3, 2, 1) are the coefficients for an FIR pyramid filter of order 5, and so forth.

5. Claim 12 and 30 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Deczky.

Deczky teaches the claimed combination elements, e.g., see Fig. 3, elements (31, 32).

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Acharya.

Acharya has been discussed in paragraph # 4 above. The claim adds the specific value for the sequence of the filter factors. The feature is obvious to a person having ordinary skill in the art. It would have been obvious to a person having ordinary skill in the art at the time the invention was made to design the claimed invention according to Acharya's teachings because the device is a filter having symmetrical sequence of coefficient as claimed.

8. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Acharya as applied to claim 2 above, and further in view of Deczky.

Acharya and Deczky have been discussed in paragraphs # 4, 5 & 7 above. The claim adds a "plural digital filters" feature. Deczky shows the claimed feature, e.g., see Fig. 3, elements ((31 & 39). It would have been obvious to a person having ordinary skill in the art at the time the invention was made to combine Deczky "plurality digital filters" in Acharya, thereby making the claimed invention, because the proposed device is a filter having symmetrical sequence of coefficient as claimed.

9. Claims 8-11 and 13-16 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action.

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Cited references are art of interest.

11. The following is an examiner's statement of reasons for allowance: the recorded references do NOT teach or suggest:

(1) the "filter factors have a symmetrical sequence ... and a sum of every other terms is equal to a sum of the other every other terms with **opposite signs**" feature as recited in independent claims 4. Similar language is used in independent claims 17-21, 24-25, 28-29, 33 & 46-47 and dependent claims 31-32;

(2) the "filter is designed based on first filter factors having a symmetrical sequence ... and second filter factors being obtained by reversing signs of values other than a median of the sequence of the first filter factors" feature as recited in independent claims 8-9 and 13-14; and

(3) the "filter factors have a symmetrical sequence ... and a sum of every other terms is equal to a sum of the other every other terms with **same signs**" and "pass frequency band" features as recited in independent claims 38-39 & 45 and dependent claims 36, 40 & 49.


Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tan V. Mai whose telephone number is (571) 272-3726. The examiner can normally be reached on Mon-Wed and Fri. from 9:30am to 2:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Meng-Ai An, can be reached on (571) 272-3756. The fax phone number for the organization where this application or proceeding is assigned is:

Official (571) 273-8300.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (571) 272-2100.


Tan V. Mai
Primary Examiner